

L Number	Hits	Search Text	DB	Time stamp
1	17791	435/7.2, 7.21	USPAT; US-PGPUB; EPO; DERWENT	2003/09/29 11:41
2	21063	435/29, 40.5, 40.51, 288.3	USPAT; US-PGPUB; EPO; DERWENT	2003/09/29 11:42
3	5	435/29 and 435/40.5 and 435/40.51 and 435/288.3	USPAT; US-PGPUB; EPO; DERWENT	2003/09/29 11:45
4	47	fluorescen\$ same change near15 (cytoplasm near5 membrane)	USPAT; US-PGPUB; EPO; DERWENT	2003/09/29 11:46
5	47	(fluorescen\$ same change) near15 (cytoplasm near5 membrane)	USPAT; US-PGPUB; EPO; DERWENT	2003/09/29 11:47
6	46	(fluorescen\$ same (ratio or change)) near15 (cytoplasm near4 membrane)	USPAT; US-PGPUB; EPO; DERWENT	2003/09/29 11:48

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=> fluores?(P)(scan or imag?)(P)(change or ratio)(P)(cytoplasm(4A)membrane)

L1 11 FILE CAPLUS

L2 12 FILE BIOSIS

L3 12 FILE MEDLINE

L4 9 FILE EMBASE

L5 7 FILE USPATFULL

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L6 51 FLUORES?(P)(SCAN OR IMAG?)(P)(CHANGE OR RATIO)(P)(CYTOPLASM(4A)MEMBRANE)

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L7 22 DUP REM L6 (29 DUPLICATES REMOVED)

=> d 17 ibib abs total

L7 ANSWER 1 OF 22 USPATFULL on STN

ACCESSION NUMBER: 2003:251023 USPATFULL

TITLE: Fluorescent timer proteins and methods for their use

INVENTOR(S): Fradkov, Arcady Fedorovich, Moscow, RUSSIAN FEDERATION
Terskikh, Alexey, Santa Clara, CA, UNITED STATES

NUMBER KIND DATE

PATENT INFORMATION: US 2003175809 A1 20030918

APPLICATION INFO.: US 2002-315920 A1 20021209 (10)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. WO 2001-US19097, filed
on 13 Jun 2001, PENDING

NUMBER DATE

PRIORITY INFORMATION: US 2000-211607P 20000614 (60)

DOCUMENT TYPE: Utility

FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: BOZICEVIC, FIELD & FRANCIS LLP, 200 MIDDLEFIELD RD,
SUITE 200, MENLO PARK, CA, 94025

NUMBER OF CLAIMS: 28

EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 20 Drawing Page(s)

LINE COUNT: 3314

AB Fluorescent timer proteins, which undergo a spectral shift over time after synthesis, as well as nucleic acid compositions encoding the same, are provided. Also provided are fragments of the subject proteins and nucleic acids encoding the same, as well as antibodies to the subject proteins and transgenic cells and organisms including the subject nucleic acid molecules. The subject protein and nucleic acid compositions find use in a variety of different applications. Finally, kits for use in such applications that include the subject nucleic acid compositions are provided.

L7 ANSWER 2 OF 22 USPATFULL on STN

ACCESSION NUMBER: 2003:207276 USPATFULL

TITLE: Method to detect interactions between cellular components in intact living cells, and to extract quantitative information relating to those interactions by fluorescence redistribution

INVENTOR(S): Terry, Bernard Robert, Frederiksberg, DENMARK

Nielsen, Soren Jensby, Frederiksberg, DENMARK

PATENT ASSIGNEE(S): Biolmage A/S, Soborg, DENMARK (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003143634	A1	20030731
APPLICATION INFO.:	US 2002-270223	A1	20021011 (10)
RELATED APPLN. INFO.:	Continuation of Ser. No. WO 2002-DK651, filed on 1 Oct 2002, UNKNOWN		

	NUMBER	DATE
PRIORITY INFORMATION:	DK 2001-1433	20011001
	US 2001-328896P	20011011 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	BIRCH STEWART KOLASCH & BIRCH, PO BOX 747, FALLS CHURCH, VA, 22040-0747	
NUMBER OF CLAIMS:	64	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	22 Drawing Page(s)	
LINE COUNT:	3279	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to a 3-part hybrid system for detection protein interactions in live mammalian cells and screening for compounds modulating such interactions. The method is fully compatible with HTS. The three hybrids are a first heterologous conjugate comprising an anchor protein that specifically binds to an internal structure within the cell conjugated to an interactor protein of type A, a second heterologous conjugate comprising an interactor protein of type B conjugated to the first protein of interest, a third heterologous conjugate comprising a second protein of interest conjugated to a detectable group. When applying a dimerizer compound, interactor proteins A and B bind to each other and if the two proteins of interest interact, the distribution of the detectable group will mimic the distribution of the anchor protein. However, if there is no interaction, the distribution of the detectable group will mimic the distribution of the second protein of interest.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 3 OF 22 USPATFULL on STN

ACCESSION NUMBER: 2003:134795 USPATFULL

TITLE: Kindling fluorescent proteins and methods for their use

INVENTOR(S): Lukyanov, Sergey A., Moscow, RUSSIAN FEDERATION

Lukyanov, Konstantin, Moscow, RUSSIAN FEDERATION
Chudakov, Dmitry, Moscow, RUSSIAN FEDERATION

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003092884	A1	20030515
APPLICATION INFO.:	US 2002-155809	A1	20020524 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2001-293752P	20010525 (60)
	US 2001-329176P	20011011 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	BOZICEVIC, FIELD & FRANCIS LLP, 200 MIDDLEFIELD RD, SUITE 200, MENLO PARK, CA, 94025	
NUMBER OF CLAIMS:	43	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	10 Drawing Page(s)	
LINE COUNT:	3222	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Kindling fluorescent protein compositions and nucleic acids encoding the same, as well as methods for using the same, are provided. The kindling fluorescent proteins are characterized in that they become brightly fluorescent proteins, from an initial non-fluorescent or low fluorescent state, upon exposure to a kindling stimulus, which fluorescent state may be reversible or irreversible. The subject protein/nucleic acid compositions find use in labeling protocols, e.g., in labeling proteins, organelles, cells and organisms, etc., in a variety of different types of applications. Also provided are systems and kits for use in practicing such applications.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 4 OF 22 USPATFULL on STN

ACCESSION NUMBER: 2003:30340 USPATFULL
TITLE: Non aggregating fluorescent proteins and methods for using the same
INVENTOR(S): Lukyanov, Sergey, Moscow, RUSSIAN FEDERATION
Lukyanov, Konstantin, Moscow, RUSSIAN FEDERATION
Yanushevich, Yuriy, Moscow, RUSSIAN FEDERATION
Savitsky, Alexandr, Moscow, RUSSIAN FEDERATION
Fradkov, Arcady, Moscow, RUSSIAN FEDERATION

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003022287	A1	20030130
APPLICATION INFO.:	US 2002-81864	A1	20020220 (10)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 2001-6922, filed on 4 Dec 2001, PENDING		

	NUMBER	DATE
PRIORITY INFORMATION:	US 2001-270983P	20010221 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	BOZICEVIC, FIELD & FRANCIS LLP, 200 MIDDLEFIELD RD, SUITE 200, MENLO PARK, CA, 94025	
NUMBER OF CLAIMS:	20	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	15 Drawing Page(s)	
LINE COUNT:	2207	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Nucleic acid compositions encoding non-aggregating chromo/fluoroproteins

and mutants thereof, as well as the proteins encoded by the same, are provided. The proteins of interest are polypeptides that are non-aggregating colored and/or fluorescent proteins, where the non-aggregating feature arises from the modulation of residues in the N-terminus of the protein and the chromo and/or fluorescent feature arises from the interaction of two or more residues of the protein. Also provided are fragments of the subject nucleic acids and the peptides encoded thereby, as well as antibodies to the subject proteins and transgenic cells and organisms. The subject protein and nucleic acid compositions find use in a variety of different applications. Finally, kits for use in such applications, e.g., that include the subject nucleic acid compositions, are provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 5 OF 22 USPATFULL on STN

ACCESSION NUMBER: 2002:343950 USPATFULL

TITLE: Novel chromophores/fluorophores and methods for using the same

INVENTOR(S): Lukyanov, Sergey A., Moscow, RUSSIAN FEDERATION
 Fradkov, Arcady F., Moscow, RUSSIAN FEDERATION
 Labas, Yulii A., Moscow, RUSSIAN FEDERATION
 Matz, Mikhail V., Palm Cost, RUSSIAN FEDERATION
 Terskikh, Alexey, Palo Alto, CA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002197676	A1	20021226
APPLICATION INFO.:	US 2001-6922	A1	20011204 (10)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. WO 2000-US28477, filed on 13 Oct 2000, UNKNOWN Continuation-in-part of Ser. No. US 1999-418529, filed on 14 Oct 1999, PENDING Continuation-in-part of Ser. No. US 1999-418917, filed on 15 Oct 1999, ABANDONED Continuation-in-part of Ser. No. US 1999-418922, filed on 15 Oct 1999, ABANDONED Continuation-in-part of Ser. No. US 1999-444338, filed on 19 Nov 1999, ABANDONED Continuation-in-part of Ser. No. US 1999-444341, filed on 19 Nov 1999, ABANDONED Continuation-in-part of Ser. No. US 1999-457556, filed on 9 Dec 1999, ABANDONED Continuation-in-part of Ser. No. US 1999-458477, filed on 9 Dec 1999, ABANDONED Continuation-in-part of Ser. No. US 1999-458144, filed on 9 Dec 1999, ABANDONED Continuation-in-part of Ser. No. US 1999-457898, filed on 9 Dec 1999, ABANDONED		

	NUMBER	DATE
PRIORITY INFORMATION:	WO 1999-US29405	19991210
	US 2000-211627P	20000614 (60)
	US 2000-211687P	20000614 (60)
	US 2000-211609P	20000614 (60)
	US 2000-211626P	20000614 (60)
	US 2000-211880P	20000614 (60)
	US 2000-211607P	20000614 (60)
	US 2000-211766P	20000614 (60)
	US 2000-211888P	20000614 (60)
	US 2000-212070P	20000614 (60)

DOCUMENT TYPE: Utility

FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: BOZICEVIC, FIELD & FRANCIS LLP, 200 MIDDLEFIELD RD, SUITE 200, MENLO PARK, CA, 94025

NUMBER OF CLAIMS: 31

EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 19 Drawing Page(s)

LINE COUNT: 2795

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Nucleic acid compositions encoding novel chromo/fluoroproteins and mutants thereof, as well as the proteins encoded by the same, are provided. The subject proteins of interest are proteins that are colored and/or fluorescent, where this feature arises from the interaction of two or more residues of the protein. The subject proteins are further characterized in that they are either obtained from non-bioluminescent Cnidarian, e.g., Anthozoan, species or are obtained from non-Pennatulacean (sea pen) species. Specific proteins of interest include proteins obtained from the following specific Anthozoan species: Anemonia majano (NFP-1), Clavularia sp. (NFP-2), Zoanthus sp. (NFP-3 & NFP-4), Discosoma striata (NFP-5), Discosoma sp. "red" (NFP-6), Anemonia sulcata (NFP-7), Discosoma sp "green" (NFP-8), and Discosoma sp. "magenta" (NFP-9). Also of interest are proteins that are substantially similar to, or mutants of, the above specific proteins. Also provided are fragments of the nucleic acids and the peptides encoded thereby, as well as antibodies to the subject proteins and transgenic cells and organisms. The subject protein and nucleic acid compositions find use in a variety of different applications. Finally, kits for use in such applications, e.g., that include the subject nucleic acid compositions, are provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 6 OF 22 USPATFULL on STN

ACCESSION NUMBER: 2002:314672 USPATFULL

TITLE: Systems and methods for automated analysis of cells and tissues

INVENTOR(S): Rimm, David L., Branford, CT, UNITED STATES
Camp, Robert L., Stamford, CT, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002177149	A1	20021128
APPLICATION INFO.:	US 2002-62308	A1	20020201 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2001-334723P	20011031 (60)
	US 2001-285155P	20010420 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	FOLEY HOAG LLP, PATENT GROUP, WORLD TRADE CENTER WEST, 155 SEAPORT BOULEVARD, BOSTON, MA, 02110-2600	
NUMBER OF CLAIMS:	38	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	6 Drawing Page(s)	
LINE COUNT:	1254	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Systems and methods for rapidly analyzing cell containing samples, for example to identify morphology or to localize and quantitate biomarkers are disclosed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 7 OF 22 USPATFULL on STN

ACCESSION NUMBER: 2002:287610 USPATFULL

TITLE: Far red shifted fluorescent proteins

INVENTOR(S): Lukyanov, Sergey, Moscow, RUSSIAN FEDERATION
Lukyanov, Konstantin, Moscow, RUSSIAN FEDERATION
Fradkov, Arcady, Moscow, RUSSIAN FEDERATION
Gurskaya, Nadejda, Moscow, RUSSIAN FEDERATION

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002160473	A1	20021031
APPLICATION INFO.:	US 2001-976673	A1	20011012 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2000-240018P	20001012 (60)
	US 2001-306131P	20010716 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	Bret E. Field, Bozicevic, Field and Francis LLP, Suite 200, 200 Middlefield Road, Menlo Park, CA, 94025	
NUMBER OF CLAIMS:	19	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	19 Drawing Page(s)	
LINE COUNT:	2415	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Nucleic acid compositions encoding Stichodactylidaen chromoproteins and fluorescent mutants thereof, as well as the polypeptide compositions encoded by the same, are provided. The proteins of interest are proteins that are colored and/or fluorescent, where this feature arises from the interaction of two or more residues of the protein. Also of interest are proteins that are substantially similar to, or mutants of, the above specific proteins, including non-aggregating mutants and mutants with modulated oligomerization characteristics as compared to wild type. Also provided are fragments of the nucleic acids and the peptides encoded thereby, as well as antibodies to the subject proteins and transgenic cells and organisms. The subject protein and nucleic acid compositions find use in a variety of different applications. Finally, kits for use in such applications, e.g., that include the subject nucleic acid compositions, are provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 8 OF 22 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 1

ACCESSION NUMBER: 2000:106134 CAPLUS
DOCUMENT NUMBER: 132:262757
TITLE: Osmotically evoked shrinking of guard-cell protoplasts causes vesicular retrieval of plasma membrane into the cytoplasm
AUTHOR(S): Kubitscheck, Ulrich; Homann, Ulrike; Thiel, Gerhard
CORPORATE SOURCE: Institut fur Medizinische Physik und Biophysik, Westfalische Wilhelms-Universitat, Munster, 48149, Germany
SOURCE: Planta (2000), 210(3), 423-431
CODEN: PLANAB; ISSN: 0032-0935
PUBLISHER: Springer-Verlag
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The dye FM1-43 was used alone or in combination with measurements of the membrane capacitance (Cm) to monitor membrane **changes** in protoplasts from Vicia faba L. guard cells. Confocal **images** of protoplasts incubated with FM1-43 (10 .mu.M) at const. ambient osmotic pressure (.pi.o) revealed in confocal **images** a slow internalization of FM1-43-labeled **membrane** into the **cytoplasm**. As a result of this process the relative **fluorescence** intensity of the cell interior (fFM,i) increased with ref. to the total **fluorescence** (fFM,t) by 7.4 .times. 10⁻⁴ min⁻¹. This steady internalization of dye suggests the occurrence of constitutive endocytosis under const. osmotic pressure. Steady internalization of FM1-43 labeled membrane caused a prominent staining of a ring-like structure located beneath the plasma membrane. Abrupt elevation of .pi.o by 200 mosmol kg⁻¹ caused, over the first minutes of

incubation, a rapid internalization of FM1-43 **fluorescence** into the cytoplasm concomitant with a decrease in cell perimeter. Within the first 5 min the cell perimeter decreased by 7.9%. Over the same time fFM,i/fFM,t increased by 0.13, reflecting internalization of **fluorescent** label into the cytoplasm. Combined measurements of Cm and total **fluorescence** of a protoplast (fFM,p) showed that an increase in .pi.o evoked a decrease in Cm but no **change** in fFM,p. This means that surface contraction of the protoplast is due to retrieval of excess membrane from the plasma **membrane** and internalization into the **cytoplasm**. Further inspection of confocal **images** revealed that protoplast shrinking was only occasionally assocd. with internalization of giant vesicles (median diam. 2.7 .mu.m) with FM1-43-labeled membrane. In all cases, osmotic contraction was correlated with a diffuse distribution of FM1-43 label throughout the cytoplasm. It is concluded that endocytosis of small vesicles into the cytoplasm is the obligatory process by which cells accommodate an osmotically driven decrease in membrane surface area.

REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 9 OF 22 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 2

ACCESSION NUMBER: 2000:305681 CAPLUS

DOCUMENT NUMBER: 133:189887

TITLE: Apoptosis: the importance of nuclear medicine

AUTHOR(S): Blankenberg, F. G.; Tait, J.; Ohtsuki, K.; Strauss, H. W.

CORPORATE SOURCE: Department of Radiology/Division of Pediatric Radiology, Stanford University School of Medicine, Stanford, CA, 94305-5105, USA

SOURCE: Nuclear Medicine Communications (2000), 21(3), 241-250
CODEN: NMCODC; ISSN: 0143-3636

PUBLISHER: Lippincott Williams & Wilkins

DOCUMENT TYPE: Journal; General Review

LANGUAGE: English

AB A review with 52 refs. Apoptosis is a genetically controlled, energy-dependent process which removes unwanted cells from the body. Because of its orderly progression, apoptosis is also known as programmed cell death or cell suicide. Once initiated, apoptosis is characterized by a series of biochem. and morphol. **changes** involving the **cytoplasm**, nucleus and cell **membrane**. Cytoplasmic **changes** include cytoskeletal disruption, cytoplasmic shrinkage and condensation; prominent **changes** in the nucleus include peripheral chromatin clumping and inter-nucleosomal DNA cleavage (DNA ladder formation); and membrane **changes** include the expression of phosphatidylserine on the outer surface of the cell membrane and blebbing (resulting in the formation of cell membrane-bound vesicles or apoptotic bodies). These events allow the cell to digest and package itself into **membrane**-bound packets contg. autodigested **cytoplasm** and DNA, which can then be easily absorbed by adjacent cells or phagocytes. An endogenous human protein, annexin V (mol. wt. approx. 35,000), has an affinity of about 10⁻⁹ M for phosphatidylserine exposed on the surface of apoptotic cells. Annexin V can be labeled with radionuclides such as iodine or technetium, or positron emitting agents. Exptl. studies in cells confirm that **fluorescence** and 99Tcm-labeled annexin have comparable affinity for apoptotic cells. In vivo studies with 99Tcm-labeled annexin confirm that radiolabeled annexin V can be used to **image** apoptotic cells/tissues in vivo. In this article, we review exptl. data using annexin V **imaging** and discuss its possible future use to identify apoptosis in vivo.

REFERENCE COUNT: 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 10 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN

ACCESSION NUMBER: 2002:223697 BIOSIS

DOCUMENT NUMBER: PREV200200223697
TITLE: Na⁺/H⁺ exchange activity is present in basolateral membranes of taste receptor cells.
AUTHOR(S): Lyall, Vijay (1); Ereso, Glen L.; Phan, Duy; Desai, Nilay; DeSimone, John A. (1); Feldman, George M. (1)
CORPORATE SOURCE: (1) Virginia Commonwealth University, Richmond, VA USA
SOURCE: Journal of the American Society of Nephrology, (September, 2000) Vol. 11, No. Program and Abstract Issue, pp. 7A.
<http://www.jasn.org/>. print.
Meeting Info.: 33rd Annual Meeting of the American Society of Nephrology and the 2000 Renal Week Toronto, Ontario, Canada October 10-16, 2000
ISSN: 1046-6673.
DOCUMENT TYPE: Conference
LANGUAGE: English

AB Taste receptor cells (TRCs) are lingual epithelial cells that detect chemical constituents of food. Humans perceive these constituents as sour, salt, sweet and bitter, and an elevated (H⁺) is perceived as sourness. H⁺ enter TRCs across the apical cell **membrane** and acidify the **cytoplasm** (Lyall V. et al. Am. J. Physiol. 273: C1008, 1997). We sought to identify whether Na⁺/H⁺ exchange (NHE) activity is present in TRCs and participates in maintenance of intracellular acid-base balance following H⁺ loading of TRCs. Intracellular pH (pHi) was monitored in polarized fungiform papillae from rats loaded with BCECF. Apical and basolateral sides of the papilla were perfused independently with HEPES buffered media (pH 7.4; 22degree+1degree). The cells were **imaged** from the basolateral side through a 40X objective at 510 nm with an intensified CCD camera as they were excited alternately at 490 nm and 440 nm. pHi was monitored with the **fluorescence** emission **ratio** (F490/F440). Several lines of evidence indicated that NHE activity is present in the basolateral membrane of TRCs. 1) Removing Na⁺ from the basolateral perfusate by substituting with NMDG decreased pHi, and amiloride, a inhibitor of NHE activity, attenuated that decrease in pHi. 2) TRC pHi also decreased when amiloride was added to Na⁺ containing perfusate. 3) Acid loading of TRCs by pre-pulsing with 15 mM NH₄Cl or by exposing to 15 mM Na acetate induced transient decreases in TRC pHi that recovered spontaneously to baseline values. The spontaneous recovery of pHi was blocked by amiloride in the basolateral perfusate and was blocked by the removal of Na⁺ from the basolateral perfusate. Removal of solution Cl⁻ had no effect on pHi recovery. 4) S1611 and S3226, selective blockers of NHE-3, inhibited NHE activity with Ki's of 0.14 μM and 1.9 μM, respectively, while amiloride exhibited a higher Ki, 33 μM. Thus, intracellular acid-base balance in TRCs is maintained by Na⁺/H⁺ exchange activity in the basolateral cell membrane, and that activity has functional properties similar to NHE-3.

L7 ANSWER 11 OF 22 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 3
ACCESSION NUMBER: 1999:352254 CAPLUS
TITLE: Supporting cells contribute to control of hearing sensitivity
AUTHOR(S): Flock, Ake; Flock, Britta; Fridberger, Anders; Scarfone, Eric; Ulfendahl, Mats
CORPORATE SOURCE: Department of Physiology and Pharmacology, Karolinska Institutet, Stockholm, S-171 77, Swed.
SOURCE: Journal of Neuroscience (1999), 19(11), 4498-4507
CODEN: JNRSDS; ISSN: 0270-6474
PUBLISHER: Society for Neuroscience
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The mammalian hearing organ, the organ of Corti, was studied in an in vitro prepn. of the guinea pig temporal bone. As in vivo, the hearing organ responded with an elec. potential, the cochlear microphonic potential, when stimulated with a test tone. After exposure to intense sound, the response to the test tone was reduced. The elec. response

either recovered within 10-20 min or remained permanently reduced, thus corresponding to a temporary or sustained loss of sensitivity. Using laser scanning confocal microscopy, stimulus-induced **changes** of the cellular structure of the hearing organ were simultaneously studied. The cells in the organ were labeled with two **fluorescent** probes, a **membrane** dye and a **cytoplasm** dye, showing enzymic activity in living cells. Confocal microscopy **images** were collected and compared before and after intense sound exposure. The results were as follows. (1) The organ of Corti could be divided into two different structural entities in terms of their susceptibility to damage: an inner, structurally stable region comprised of the inner hair cell with its supporting cells and the inner and outer pillar cells; and an outer region that exhibited dynamic structural **changes** and consisted of the outer hair cells and the third Deiters' cell with its attached Hensen's cells. (2) Exposure to intense sound caused the Deiters' cells and Hensen's cells to move in toward the center of the cochlear turn. (3) This event coincided with a reduced sensitivity to the test tone (i.e., reduced cochlear microphonic potential). (4) The displacement and sensitivity loss could be reversible. It is concluded that these observations have relevance for understanding the mechanisms behind hearing loss after noise exposure and that the supporting cells take an active part in protection against trauma during high-intensity sound exposure.

REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 12 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN DUPLICATE 4

ACCESSION NUMBER: 1999:307930 BIOSIS

DOCUMENT NUMBER: PREV199900307930

TITLE: Laser scanning confocal microscopy of the hearing organ: Fluorochrome-dependent cellular damage is seen after overexposure.

AUTHOR(S): Flock, Ake (1); Flock, Britta; Scarfone, Eric

CORPORATE SOURCE: (1) Department of Physiology and Pharmacology, Karolinska Institutet, S-171, 77, Stockholm Sweden

SOURCE: Journal of Neurocytology, (July, 1998) Vol. 27, No. 7, pp. 507-516.
ISSN: 0300-4864.

DOCUMENT TYPE: Article

LANGUAGE: English

SUMMARY LANGUAGE: English

AB In order to combine laser confocal microscopy with physiological measurements, a number of conditions have to be met: the dye must not be toxic to the cells the laser light itself must not damage the cells; and the excitation of the fluorochrome during **imaging** must not generate products with toxic effects. We have investigated these conditions the hearing organ of the guinea pig. Two dyes were used, namely, calcein-AM, which is metabolized in vital cells to a **fluorescent** product in the **cytoplasm**, and a lipophilic **membrane** dye. The effect of the dyes on cell function was tested in the intact hearing organ, maintained in the isolated temporal bone, by measuring the electrophysiological potentials generated by the sensory cells in response to tone pulses. The loading of the cells with the dyes had no adverse effects. The effect of the laser beam was explored on isolated coils from the cochlea. In two preparations, the specimens viewed in the confocal system were fixed and processed for electron microscopy. Identified cells were followed before, during, and after laser exposure and could ultimately be examined at the ultrastructural level. Exposure to the laser beam did not cause damage in unstained cells, even at high intensities. In stained tissue, confocal microscopy could safely be performed at normal beam intensity without causing ultrastructural **changes**. At high intensities, about 100 times normal for 60 times as long, irradiation damage was seen that was selective in that the cells

stained with the different dyes exhibited damage at the different sites corresponding to the subcellular location of the dyes. Cells stained with calcein showed lysis of mitochondria and loss of cytoplasmic matrix, whereas cells stained with the styryl membrane dye showed swelling of subsurface cisternae, contortion of the cell wall, and shrinkage. The styryl dyes, in particular, which selectively stain the sensory and neuronal cells in the organ of Corti, could be exploited for phototoxic use.

L7 ANSWER 13 OF 22 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 5

ACCESSION NUMBER: 1999:200465 CAPLUS

DOCUMENT NUMBER: 130:323453

TITLE: Monitoring calcium in outer hair cells with confocal microscopy and fluorescence ratios of fluo-3 and fura-red

AUTHOR(S): Su, Zhen Lun; Li, Nan; Sun, Yen Rong; Yang, Jun; Wang, Li Ming; Jiang, Si Chang

CORPORATE SOURCE: Institute of Otolaryngology, Chinese PLA General Hospital, Beijing, 100853, Peop. Rep. China

SOURCE: Shiyan Shengwu Xuebao (1998), 31(4), 323-331

CODEN: SYSWAE; ISSN: 0001-5334

PUBLISHER: Shanghai Kexue Jishu Chubanshe

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

AB Calcium distribution and mobilization during mech. stimulation in outer hair cells of the guinea pig were monitored using laser scanning confocal microscopy and co-loaded fluo-3 and fura-red **fluorescent** probes. Spatial calcium gradients were revealed among various subcellular areas. The **ratios** of the **fluorescence** intensity of fluo-3 and fura-red were 1.71 ± 0.85 , 1.61 ± 0.75 , 1.47 ± 0.65 and 1.39 ± 0.66 for the **cytoplasm**, the cytoplasmic **membrane**, the cuticular plate and the nucleus resp., indicating that free calcium ion concns. are the highest in the cytoplasm and the lowest in the nucleus. While the calcium concn. remained relatively const. under resting conditions, it increased during mech. stimulation. The results show that confocal **ratio imaging** of fluo-3 and fura-red enables us to det. more accurately the subcellular calcium distribution and that the calcium ions make a contribution to the mechanic-elec. transduction in hair cells.

L7 ANSWER 14 OF 22 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1997:7680 CAPLUS

DOCUMENT NUMBER: 126:54835

TITLE: Effect of natural antioxidant tanshinone II-A on interaction of lipid peroxidation products and DNA in liver cells

AUTHOR(S): Cao, Enhua; Liu, Xiaoqi; Li, Jingfu; Xu, Nafei; Qin, Jingfen; Chen, Tianming; Wang, Susheng; Yu, Xin

CORPORATE SOURCE: Inst. Biophysics, Acad. Sinica, Beijing, 100101, Peop. Rep. China

SOURCE: Shengwu Wuli Xuebao (1996), 12(2), 337-344

CODEN: SWXUEN; ISSN: 1000-6737

PUBLISHER: Shengwu Wuli Xuebao

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

AB The effects of tanshinone II-A (TS II-A) on the interaction of lipid peroxidn. products and DNA were studied by using [3 H]arachidonic acid-labeled liver cells in the presence of FeCl₂-DTPA. The nuclear DNA isolated from treated cells had higher radioactivity as compared with controls and the radioactivity increased with longer incubation time. Purified lipid-DNA adducts had a characteristic **fluorescent** spectrum and showed a decrease of hyperchromicity and m.p. TS II-A was mainly located in the cell **membrane** and **cytoplasm** as shown by ultrasensitive **fluorescence** microscopic **imaging**

observation. TS II-A inhibited the assocn. of peroxidn. products with DNA in liver cells and prevented decrease in cell viability and activity of O6-methylguanine acceptor protein with increasing incubation time. Compared with other antioxidants, TS II-A had a higher inhibitory **ratio** which was similar to vitamin E and butylated hydroxy-toluene, but markedly stronger than NaN₃ mannitol and superoxide dismutase.

L7 ANSWER 15 OF 22 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 6

ACCESSION NUMBER: 1994:128786 CAPLUS

DOCUMENT NUMBER: 120:128786

TITLE: Fluorescent actin analogs with a high affinity for profilin in vitro exhibit an enhanced gradient of assembly in living cells

AUTHOR(S): Giuliano, Kenneth A.; Taylor, D. Lansing

CORPORATE SOURCE: Cent. Light Microsc. Imaging Biotechnol., Carnegie Mellon Univ., Pittsburgh, PA, 15213, USA

SOURCE: Journal of Cell Biology (1994), 124(6), 971-83

CODEN: JCLBA3; ISSN: 0021-9525

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Constitutive centripetal transport of the actin-based cytoskeleton has been detected in cells spreading on a substrate, locomoting fibroblasts and keratocytes, and non-locomoting serum-deprived fibroblasts. These results suggest a gradient of actin assembly, highest in the cortex at the **cytoplasm-membrane** interface and lowest in the non-cortical perinuclear cytoplasm. The authors predicted that such a gradient would be maintained in part by phosphoinositide-regulated actin binding proteins because the intracellular free Ca²⁺ and pH are low and spatially const. in serum-deprived cells. The **cytoplasm-membrane** interface presents one surface where the assembly of actin is differentially regulated relative to the non-cortical cytoplasm. Several models, based on in vitro biochem., propose that phosphoinositide-regulated actin binding proteins are involved in local actin assembly. To test these models in living cells using **imaging** techniques, the authors prepd. a new **fluorescent** analog of actin that bound profilin, a protein that interacts with phosphoinositides and actin-monomers in a mutually exclusive manner, with an order of magnitude greater affinity ($K_d = 3.6 \mu\text{M}$) than cys-374-labeled actin ($K_d > 30 \mu\text{M}$), yet retained the ability to inhibit DNase I. Hence, the authors were able to directly compare the distribution and activity of a biochem. mutant of actin with an analog possessing closer to wild-type activity. Three-dimensional **fluorescence** microscopy of the **fluorescent** analog of actin with a high affinity for profilin revealed that it incorporated into cortical cytoplasmic fibers and was also distributed diffusely in the non-cortical cytoplasm consistent with a bias of actin assembly near the surface of the cell. **Fluorescence ratio imaging** revealed that serum-deprived and migrating fibroblasts concd. the new actin analog into fibers up to four-fold in the periphery and leading edge of these cells, resp., relative to a sol. **fluorescent** dextran vol. marker, consistent with the formation of a gradient of actin filament d. relative to cell vol. Comparison of these gradients in the same living cell using analogs of actin with high and low affinities for profilin demonstrated that increased profilin binding enhanced the gradient. Profilin and related proteins may therefore function in part to bias the assembly of actin at the **membrane-cytoplasm** interface.

L7 ANSWER 16 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN DUPLICATE 7

ACCESSION NUMBER: 1994:131288 BIOSIS

DOCUMENT NUMBER: PREV199497144288

TITLE: Cytoskeletal movements and substrate interactions during

initiation of neurite outgrowth by sympathetic neurons
in-vitro.

AUTHOR(S): Smith, Carolyn L.
CORPORATE SOURCE: Lab. Neural Control, NINDS, National Inst. Health, Building
36, Room 2A29, Bethesda, MA 20892 USA
SOURCE: Journal of Neuroscience, (1994) Vol. 14, No. 1, pp.
384-398.
ISSN: 0270-6474.
DOCUMENT TYPE: Article
LANGUAGE: English

AB The initial outgrowth of neurites from chick sympathetic neurons grown in vitro was investigated by time-lapse microscopy, with laser-scanning and conventional light microscopes. Video-enhanced contrast, differential interference contrast optics (VECDIC) were used to monitor movements of neuronal cytoplasm, as well as the movements of small beads attached to the surface membrane, and interference reflection microscopy (IRM) was used to determine the concomitant pattern of attachment to the growth substrate (polyornithine or laminin). Related **changes** in the distributions of actin filaments, microtubules, and neurofilaments were determined by **fluorescence** labeling methods. Neurite formation on both substrates entailed invasion of the actin cores of filopodia by cytoplasm containing microtubules and neurofilaments. Small beads attached to the surface **membrane** surrounding the **cytoplasm** moved outward simultaneously with the cytoplasm. Cytoplasm invaded filopodia of neurons plated on laminin soon after attachment to the substrate or, for neurons generated in vitro, within as little as 3 min after cytokinesis. However, cytoplasm invaded filopodia of neurons grown on polyornithine only when they contacted a three-dimensional object such as another cell or a large, polyornithine-coated polystyrene bead. The observation that adhesion of filopodia to polyornithine-coated beads can initiate neurite formation is inconsistent with the commonly held view that neurite formation requires adhesion mediated by specific cell adhesion molecules. Simultaneous IRM and DIC **imaging** showed that cytoplasm invaded filopodia when only their tips were closely apposed to a substrate but not when they were closely apposed to a substrate along their entire lengths. These findings help to elucidate the mechanisms by which interactions between the cytoskeleton and the growth substrate initiate and produce the neuronal movements that lead to the formation of neurites.

L7 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 8
ACCESSION NUMBER: 1993:578236 CAPLUS
DOCUMENT NUMBER: 119:178236
TITLE: Mechanism of hypotonic hemolysis of human erythrocytes
AUTHOR(S): Sato, Yukio; Yamakose, Hiroshi; Suzuki, Yasuo
CORPORATE SOURCE: Pharm. Inst., Tohoku Univ., Sendai, 980, Japan
SOURCE: Biological & Pharmaceutical Bulletin (1993), 16(5),
506-12
CODEN: BPBLEO; ISSN: 0918-6158
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A mechanism of hemolytic hole formation during rapid hemolysis in a hypotonic medium was investigated using eosin-5-maleimide (EMI) as a probe. The EMI-labeled erythrocytes revealed a distinct cluster and/or ring of intense **fluorescence** staining in a hypotonic 5 mM Hepes buffer (pH 7.4), but not in an isotonic buffer contg. 150 mM KCl. This EMI cluster indicates an assocn. of band 3 proteins, which correspond to a hemolytic hole. The hole was confirmed by an at. force microscopy **image**. The erythrocytes showed a single large hole in the membrane. By the use of EMI-labeled ghosts, it was obsd. that the lateral clustering of band 3 was accompanied by a biphasic **change** of **fluorescence** intensity of EMI. This biphasic **change** is interpreted as the hemolytic hole formation by band 3, followed by a disappearance of the hole accompanied by band 3 diffusion or distribution

within the membrane. The latter event corresponds to a spontaneous membrane seal. When a cytoplasmic domain of band 3 was digested with trypsin, or when SH groups in the **cytoplasm**-facing components of the **membrane** were also labeled by EMI, no **fluorescence change** was obsd. Apparently, the assocn. and/or dissocn. of band 3 proteins in a hypotonic medium are strongly influenced by cytoplasmic domains. The apparent biphasic **change** of the **fluorescence** intensity in the hypotonic medium was well explained by assuming 3 events: swelling, clustering of band 3, and sealing accompanied by band 3 redistribution.

L7 ANSWER 18 OF 22 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 9

ACCESSION NUMBER: 1993:36125 CAPLUS
DOCUMENT NUMBER: 118:36125
TITLE: Confocal pH topography in plant cells - acidic layers in the peripheral cytoplasm and the apoplast
AUTHOR(S): Roos, W.
CORPORATE SOURCE: Abt. Biotechnol./Zellphysiol., Martin-Luther-Univ., Halle, Germany
SOURCE: Botanica Acta (1992), 105(4), 253-9
CODEN: BOACEJ; ISSN: 0932-8629
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The distribution of intracellular pH was studied in cultured cells of *Gossypium hirsutum* by confocal pH topog. using the **fluorescent** probe carboxy SNARF1 and a **ratio imaging** procedure. The resulting pH maps can visualize pH differences with an accuracy of 0.1 unit in the investigated range between 7.5 and 5.6. They reveal the following characteristic features of the *Gossypium* cells: the pH of the cytoplasmic core regions ranges from near 7.4 in younger to near 6.0 in older cells; vacuoles show the expected acidity with pH <5.6; the cell wall/apoplastic region is acidic with a pH near 5.6 or below, esp. in young, growing cells; interestingly, acidic areas appear also at the periphery of the cytoplasm, i.e., beneath the plasma membrane, and they remain stable in the presence of 5 $\mu\text{mol/L}$ of the protonophore CCCP. Acidic layers of peripheral cytoplasm were also detected in protoplasts of *Penicillium cyclopium*, i.e., eukaryotic cells of simpler structure, which served as a ref. object. This confirms earlier findings obtained with classical **fluorescence** microscopy and another fluoroprobe (**fluorescein** diacetate). Though addnl. exptl. support is needed, low pH regions at the **cytoplasm/plasma membrane** interface should be considered a real contribution to the pH control of plant and fungal cells, facilitating, e.g., the maintenance of cytosolic pH in acidic environments.

L7 ANSWER 19 OF 22 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 10

ACCESSION NUMBER: 1991:597921 CAPLUS
DOCUMENT NUMBER: 115:197921
TITLE: Laser scanning and confocal microscopy of daunorubicin, doxorubicin, and rhodamine 123 in multidrug-resistant cells
AUTHOR(S): Weaver, James L.; Pine, P. Scott; Aszalos, Adorjan; Schoenlein, Patricia V.; Currier, Stephen J.; Padmanabhan, Raji; Gottesman, Michael M.
CORPORATE SOURCE: Div. Res. Test., Food Drug Adm., Washington, DC, 20204, USA
SOURCE: Experimental Cell Research (1991), 196(2), 323-9
CODEN: ECREAL; ISSN: 0014-4827
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The multidrug-resistant gene (MDR1) encodes an energy-dependent drug efflux pump (P-glycoprotein) for many anti-cancer drugs. The intracellular distribution of rhodamine 123 (R123), daunorubicin (DN), and doxorubicin (DOX) in cells expressing a human MDR1 gene was studied. The

distribution of these **fluorescent** drugs was measured by laser scanning microscopy and confocal microscopy. A new method for anal. of **fluorescence** line scan data to det. the intracellular distribution of **fluorescent** probes was devised. This method and confocal microscopy showed that R123, DN, and DOX are localized to both plasma membrane and intracellular compartments in multidrug-resistant cells. When the cells are treated with verapamil, an inhibitor of the multidrug transporter, the amt. of DOX, DN, and R123 assocd. with the cell rises. After inhibition, the relative distribution of DOX and DN between the cell surface and intracellular structures does not **change** dramatically. However, R123 tends to relocate to intracellular sites from predominantly plasma membrane sites, indicating that this dye behaves differently than the anti-cancer drugs. These results show the subcellular distributions of R123, DN, and DOX in plasma **membrane**, **cytoplasm**, and intracellular **membrane** systems, but do not allow definitive distinctions among existing models of how P-glycoprotein affects the distribution of drugs.

L7 ANSWER 20 OF 22 MEDLINE on STN DUPLICATE 11
 ACCESSION NUMBER: 90195574 MEDLINE
 DOCUMENT NUMBER: 90195574 PubMed ID: 2156399
 TITLE: Calcium distribution and mobilization during depolarization in single cochlear hair cells. Imaging microscopy and fura-2.
 AUTHOR: Yamashita T; Amano H; Harada N; Su Z L; Kumazawa T; Tsunoda Y; Tashiro Y
 CORPORATE SOURCE: Department of Otolaryngology, Kansai Medical University, Osaka, Japan.
 SOURCE: ACTA OTO-LARYNGOLOGICA, (1990 Mar-Apr) 109 (3-4) 256-62. Journal code: 0370354. ISSN: 0001-6489.
 PUB. COUNTRY: Sweden
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: Priority Journals
 ENTRY MONTH: 199004
 ENTRY DATE: Entered STN: 19900601
 Last Updated on STN: 20000303
 Entered Medline: 19900426

AB Intracellular distribution of cytoplasm-free Ca^{2+} concentrations ($(\text{Ca}^{2+})_i$) and dynamic **changes** during stimulation of viable hair cells were studied using digital **imaging** microscopy and the Ca^{2+} -sensitive dye fura-2. $(\text{Ca}^{2+})_i$ was visualized on pseudo-colour **images** and three-dimensional computer graphics. In the resting state, the intra-cellular distribution of $(\text{Ca}^{2+})_i$ in both the outer and inner hair cells was heterogeneous, and the amount of $(\text{Ca}^{2+})_i$ in most of the peripheral **cytoplasm** just beneath the plasma **membrane** was greater than that throughout the entire cytoplasm. Cell depolarization, induced by elevated K^+ , led to an increase in $(\text{Ca}^{2+})_i$ in the outer hair cells. The increase in $(\text{Ca}^{2+})_i$ was not observed under conditions of depolarization in Ca^{2+} -free medium. These observations are interpreted to mean that the increase in $(\text{Ca}^{2+})_i$ is induced by depolarization with the result that there is an influx of extracellular Ca^{2+} into the cytoplasm. When Mn^{2+} was applied during depolarization, a **fluorescence** quenching occurred. By such means the site of Ca^{2+} channels was elucidated.

L7 ANSWER 21 OF 22 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 12
 ACCESSION NUMBER: 1986:437816 CAPLUS
 DOCUMENT NUMBER: 105:37816
 TITLE: Development of ultrastructural specialization during formation of acetylcholine receptor aggregates on cultured myotubes
 AUTHOR(S): Olek, Anthony J.; Ling, Alice; Daniels, Mathew P.
 CORPORATE SOURCE: Lab. Biochem. Genet., Natl. Heart, Lung, MD, 20892,

USA
SOURCE: Journal of Neuroscience (1986), 6(2), 487-97
CODEN: JNRSDS; ISSN: 0270-6474
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The ultrastructure of cultured rat myotubes was examd. at stages in the initial assembly of acetylcholine receptor (AChR) aggregates to elucidate the role of cell-surface specializations in aggregate formation. Within 4-6 h, embryonic brain ext. (EBX) induces the formation of sites of AChR d. elevated 5-9 times above that of surrounding regions, and the appearance of these aggregates is preceded by the formation of clouds of punctate microaggregates. A video **image**-intensification system was used to monitor this redistribution of **fluorescently** labeled AChR, and sites of aggregation were mapped on identified myotubes. After processing the cultures for electron microscopy, thin sections were taken through identified aggregate sites at various stages in assembly. Specializations, including a basal lamina, mound-shaped plasma membrane contours with occasional deep infoldings, and a subjacent dense cytoskeletal specialization, which tended to exclude other cytoplasmic organelles, were assocd. with newly formed aggregates found 4-6 h after adding EBX to the cultures. Anal. of random thin sections through EBX-treated and untreated myotubes showed that the extent of specializations of the basal lamina and cytoplasm was approx. 3-fold greater in cells exposed to EBX for 4 h, suggesting a concurrent, and possibly interdependent, organization of such specializations with AChR aggregate assembly. Examn. of sections through clouds of microaggregates, which formed within 90 min, revealed mound-shaped plasma **membrane** contours and underlying **cytoplasm** depleted of organelles but relatively little basal lamina and submembrane cytoskeletal d. Apparently, the initial stage of AChR aggregate assembly involves relatively subtle **changes** in the structure of the cell cortex and the evolution of microaggregates to aggregates may require the formation of addnl. cytoskeletal and extracellular matrix structures.

L7 ANSWER 22 OF 22 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 13
ACCESSION NUMBER: 1985:129188 CAPLUS
DOCUMENT NUMBER: 102:129188
TITLE: Rates of diffusion of fluorescent molecules via cell-to-cell membrane channels in a developing tissue
AUTHOR(S): Safranyos, Richard G. A.; Caveney, Stanley
CORPORATE SOURCE: Dep. Zool., Univ. West. Ontario, London, N6A 5B7, UK
SOURCE: Journal of Cell Biology (1985), 100(3), 736-47
CODEN: JCLBA3; ISSN: 0021-9525
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Diffusion coeffs. for the intercellular movement of **fluorescent** tracers were measured in the epidermis of a larval beetle. **Fluorescent** tracer was injected into a cell and the spread of tracer from cell to cell in this monolayer was recorded by a television camera. **Fluorescence** intensities were digitized from the television **images** at successive times after the start of injection at various distances from the source by a microcomputer interfaced with a video analyzer. From the relationship between concn. (measured as light intensity), time, and distance, an effective diffusion coeff. (De) was calcd. for the tracer in the tissue. In newly ecdysed epidermis, De for carboxyfluorescein (CF) was 2.7 .times. 10⁻⁷ cm²/s, and De for lissamine rhodamine B (LRB) was 1.2 .times. 10⁻⁷ cm²/s, whereas in intermolt epidermis the De values for CF and LRB were 3.7 .times. 10⁻⁷ and 1.2 .times. 10⁻⁷ cm²/s, resp. These De values were only an order of magnitude lower than their values in water. The **ratio** of De for the 2 tracers at these 2 stages of development differed from the **ratio** predicted in cytoplasm alone, with the movement of the slightly larger mol. (LRB) being impeded relative to that of the smaller mol. (CF). Apparently, the properties of the membrane channels amplify

differences in the rates of movement of mols. of similar size. This may be important during cell patterning in development. De For CF was also monitored as junctional resistance was increased in the epidermis. During 30 min of exposure to 0.25 mM chlorpromazine, De dropped to 20% of its initial value of 5 .times. 10⁻⁷ cm²/s, implying that the junctional **membrane**, rather than **cytoplasm**, is the major barrier to mol. diffusion among the cells.

=> imag?(P)fluores?(P) (cytoplasm(5A)membrane)

L8 33 FILE CAPLUS
L9 27 FILE BIOSIS
L10 26 FILE MEDLINE
L11 22 FILE EMBASE
L12 13 FILE USPATFULL

TOTAL FOR ALL FILES

L13 121 IMAG?(P) FLUORES?(P) (CYTOPLASM(5A) MEMBRANE)

=> .l13 and reporter

L14 1 FILE CAPLUS
L15 1 FILE BIOSIS
L16 1 FILE MEDLINE
L17 1 FILE EMBASE
L18 10 FILE USPATFULL

TOTAL FOR ALL FILES

L19 14 L13 AND REPORTER

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PROCESSING COMPLETED FOR L19

L20 11 DUP REM L19 (3 DUPLICATES REMOVED)

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L20 ANSWER 1 OF 11 USPATFULL on STN

ACCESSION NUMBER: 2003:251023 USPATFULL

TITLE: Fluorescent timer proteins and methods for their use

INVENTOR(S): Fradkov, Arcady Fedorovich, Moscow, RUSSIAN FEDERATION
Terskikh, Alexey, Santa Clara, CA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003175809	A1	20030918
APPLICATION INFO.:	US 2002-315920	A1	20021209 (10)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. WO 2001-US19097, filed on 13 Jun 2001, PENDING		

	NUMBER	DATE
PRIORITY INFORMATION:	US 2000-211607P	20000614 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	BOZICEVIC, FIELD & FRANCIS LLP, 200 MIDDLEFIELD RD, SUITE 200, MENLO PARK, CA, 94025	
NUMBER OF CLAIMS:	28	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	20 Drawing Page(s)	
LINE COUNT:	3314	

AB Fluorescent timer proteins, which undergo a spectral shift over time after synthesis, as well as nucleic acid compositions encoding the same, are provided. Also provided are fragments of the subject proteins and nucleic acids encoding the same, as well as antibodies to the subject

proteins and transgenic cells and organisms including the subject nucleic acid molecules. The subject protein and nucleic acid compositions find use in a variety of different applications. Finally, kits for use in such applications that include the subject nucleic acid compositions are provided.

L20 ANSWER 2 OF 11 USPATFULL on STN

ACCESSION NUMBER: 2003:207276 USPATFULL
TITLE: Method to detect interactions between cellular components in intact living cells, and to extract quantitative information relating to those interactions by fluorescence redistribution
INVENTOR(S): Terry, Bernard Robert, Frederiksberg, DENMARK
Nielsen, Soren Jensby, Frederiksberg, DENMARK
PATENT ASSIGNEE(S): Biolmage A/S, Soborg, DENMARK (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003143634	A1	20030731
APPLICATION INFO.:	US 2002-270223	A1	20021011 (10)
RELATED APPLN. INFO.:	Continuation of Ser. No. WO 2002-DK651, filed on 1 Oct 2002, UNKNOWN		

	NUMBER	DATE
PRIORITY INFORMATION:	DK 2001-1433	20011001
	US 2001-328896P	20011011 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	BIRCH STEWART KOLASCH & BIRCH, PO BOX 747, FALLS CHURCH, VA, 22040-0747	
NUMBER OF CLAIMS:	64	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	22 Drawing Page(s)	
LINE COUNT:	3279	
CAS INDEXING IS AVAILABLE FOR THIS PATENT.		

AB The present invention relates to a 3-part hybrid system for detection protein interactions in live mammalian cells and screening for compounds modulating such interactions. The method is fully compatible with HTS. The three hybrids are a first heterologous conjugate comprising an anchor protein that specifically binds to an internal structure within the cell conjugated to an interactor protein of type A, a second heterologous conjugate comprising an interactor protein of type B conjugated to the first protein of interest, a third heterologous conjugate comprising a second protein of interest conjugated to a detectable group. When applying a dimerizer compound, interactor proteins A and B bind to each other and if the two proteins of interest interact, the distribution of the detectable group will mimic the distribution of the anchor protein. However, if there is no interaction, the distribution of the detectable group will mimic the distribution of the second protein of interest.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L20 ANSWER 3 OF 11 USPATFULL on STN

ACCESSION NUMBER: 2003:140481 USPATFULL
TITLE: System for cell-based screening
INVENTOR(S): Giuliano, Kenneth, Pittsburgh, PA, UNITED STATES
Kapur, Ravi, Gibsonia, PA, UNITED STATES
PATENT ASSIGNEE(S): Cellomics, Inc., Pittsburgh, PA, UNITED STATES (U.S. corporation)

NUMBER	KIND	DATE
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PATENT INFORMATION: US 2003096322 A1 20030522
 APPLICATION INFO.: US 2002-100957 A1 20020319 (10)
 RELATED APPLN. INFO.: Continuation of Ser. No. US 2000-513783, filed on 25
 Feb 2000, GRANTED, Pat. No. US 6416959 Continuation of
 Ser. No. US 1999-430656, filed on 29 Oct 1999, PENDING
 Continuation of Ser. No. US 1999-398965, filed on 17
 Sep 1999, ABANDONED Continuation-in-part of Ser. No. US
 1999-352171, filed on 12 Jul 1999, PENDING
 Continuation-in-part of Ser. No. US 1998-31271, filed
 on 27 Feb 1998, PENDING Continuation-in-part of Ser.
 No. US 1997-810983, filed on 27 Feb 1997, GRANTED, Pat.
 No. US 5989835

	NUMBER	DATE
PRIORITY INFORMATION:	US 1999-122152P	19990226 (60)
	US 1999-123399P	19990308 (60)
	US 1999-151797P	19990831 (60)
	US 1999-168408P	19991201 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	MCDONNELL BOEHNEN HULBERT & BERGHOFF, 300 SOUTH WACKER DRIVE, SUITE 3200, CHICAGO, IL, 60606	
NUMBER OF CLAIMS:	20	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	49 Drawing Page(s)	
LINE COUNT:	5201	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides systems, methods, screens, reagents and
 kits for optical system analysis of cells to rapidly determine the
 distribution, environment, or activity of fluorescently labeled
reporter molecules in cells for the purpose of screening large
 numbers of compounds for those that specifically affect particular
 biological functions.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L20 ANSWER 4 OF 11 USPATFULL on STN

ACCESSION NUMBER: 2003:134795 USPATFULL
 TITLE: Kindling fluorescent proteins and methods for their use
 INVENTOR(S): Lukyanov, Sergey A., Moscow, RUSSIAN FEDERATION
 Lukyanov, Konstantin, Moscow, RUSSIAN FEDERATION
 Chudakov, Dmitry, Moscow, RUSSIAN FEDERATION

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003092884	A1	20030515
APPLICATION INFO.:	US 2002-155809	A1	20020524 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2001-293752P	20010525 (60)
	US 2001-329176P	20011011 (60)

DOCUMENT TYPE: Utility
 FILE SEGMENT: APPLICATION
 LEGAL REPRESENTATIVE: BOZICEVIC, FIELD & FRANCIS LLP, 200 MIDDLEFIELD RD,
 SUITE 200, MENLO PARK, CA, 94025
 NUMBER OF CLAIMS: 43
 EXEMPLARY CLAIM: 1
 NUMBER OF DRAWINGS: 10 Drawing Page(s)
 LINE COUNT: 3222

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Kindling fluorescent protein compositions and nucleic acids encoding the

same, as well as methods for using the same, are provided. The kindling fluorescent proteins are characterized in that they become brightly fluorescent proteins, from an initial non-fluorescent or low fluorescent state, upon exposure to a kindling stimulus, which fluorescent state may be reversible or irreversible. The subject protein/nucleic acid compositions find use in labeling protocols, e.g., in labeling proteins, organelles, cells and organisms, etc., in a variety of different types of applications. Also provided are systems and kits for use in practicing such applications.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L20 ANSWER 5 OF 11 USPATFULL on STN

ACCESSION NUMBER: 2003:30340 USPATFULL
TITLE: Non aggregating fluorescent proteins and methods for using the same
INVENTOR(S): Lukyanov, Sergey, Moscow, RUSSIAN FEDERATION
Lukyanov, Konstantin, Moscow, RUSSIAN FEDERATION
Yanushevich, Yuriy, Moscow, RUSSIAN FEDERATION
Savitsky, Alexandr, Moscow, RUSSIAN FEDERATION
Fradkov, Arcady, Moscow, RUSSIAN FEDERATION

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003022287	A1	20030130
APPLICATION INFO.:	US 2002-81864	A1	20020220 (10)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 2001-6922, filed on 4 Dec 2001, PENDING		

	NUMBER	DATE
PRIORITY INFORMATION:	US 2001-270983P	20010221 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	BOZICEVIC, FIELD & FRANCIS LLP, 200 MIDDLEFIELD RD, SUITE 200, MENLO PARK, CA, 94025	
NUMBER OF CLAIMS:	20	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	15 Drawing Page(s)	
LINE COUNT:	2207	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Nucleic acid compositions encoding non-aggregating chromo/fluoroproteins and mutants thereof, as well as the proteins encoded by the same, are provided. The proteins of interest are polypeptides that are non-aggregating colored and/or fluorescent proteins, where the the non-aggregating feature arises from the modulation of residues in the N-terminus of the protein and the chromo and/or fluorescent feature arises from the interaction of two or more residues of the protein. Also provided are fragments of the subject nucleic acids and the peptides encoded thereby, as well as antibodies to the subject proteins and transgenic cells and organisms. The subject protein and nucleic acid compositions find use in a variety of different applications. Finally, kits for use in such applications, e.g., that include the subject nucleic acid compositions, are provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L20 ANSWER 6 OF 11 USPATFULL on STN

ACCESSION NUMBER: 2002:343950 USPATFULL
TITLE: Novel chromophores/fluorophores and methods for using the same
INVENTOR(S): Lukyanov, Sergey A., Moscow, RUSSIAN FEDERATION
Fradkov, Arcady F., Moscow, RUSSIAN FEDERATION
Labas, Yulii A., Moscow, RUSSIAN FEDERATION

Matz, Mikhail V., Palm Cost, RUSSIAN FEDERATION
Terskikh, Alexey, Palo Alto, CA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002197676	A1	20021226
APPLICATION INFO.:	US 2001-6922	A1	20011204 (10)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. WO 2000-US28477, filed on 13 Oct 2000, UNKNOWN Continuation-in-part of Ser. No. US 1999-418529, filed on 14 Oct 1999, PENDING Continuation-in-part of Ser. No. US 1999-418917, filed on 15 Oct 1999, ABANDONED Continuation-in-part of Ser. No. US 1999-418922, filed on 15 Oct 1999, ABANDONED Continuation-in-part of Ser. No. US 1999-444338, filed on 19 Nov 1999, ABANDONED Continuation-in-part of Ser. No. US 1999-444341, filed on 19 Nov 1999, ABANDONED Continuation-in-part of Ser. No. US 1999-457556, filed on 9 Dec 1999, ABANDONED Continuation-in-part of Ser. No. US 1999-458477, filed on 9 Dec 1999, ABANDONED Continuation-in-part of Ser. No. US 1999-458144, filed on 9 Dec 1999, ABANDONED Continuation-in-part of Ser. No. US 1999-457898, filed on 9 Dec 1999, ABANDONED		

	NUMBER	DATE
PRIORITY INFORMATION:	WO 1999-US29405	19991210
	US 2000-211627P	20000614 (60)
	US 2000-211687P	20000614 (60)
	US 2000-211609P	20000614 (60)
	US 2000-211626P	20000614 (60)
	US 2000-211880P	20000614 (60)
	US 2000-211607P	20000614 (60)
	US 2000-211766P	20000614 (60)
	US 2000-211888P	20000614 (60)
	US 2000-212070P	20000614 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: BOZICEVIC, FIELD & FRANCIS LLP, 200 MIDDLEFIELD RD, SUITE 200, MENLO PARK, CA, 94025

NUMBER OF CLAIMS: 31
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 19 Drawing Page(s)
LINE COUNT: 2795

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Nucleic acid compositions encoding novel chromo/fluoroproteins and mutants thereof, as well as the proteins encoded by the same, are provided. The subject proteins of interest are proteins that are colored and/or fluorescent, where this feature arises from the interaction of two or more residues of the protein. The subject proteins are further characterized in that they are either obtained from non-bioluminescent Cnidarian, e.g., Anthozoan, species or are obtained from non-Pennatulacean (sea pen) species. Specific proteins of interest include proteins obtained from the following specific Anthozoan species: Anemonia majano (NFP-1), Clavularia sp. (NFP-2), Zoanthus sp. (NFP-3 & NFP-4), Discosoma striata (NFP-5), Discosoma sp. "red" (NFP-6), Anemonia sulcata (NFP-7), Discosoma sp "green" (NFP-8), and Discosoma sp. "magenta" (NFP-9). Also of interest are proteins that are substantially similar to, or mutants of, the above specific proteins. Also provided are fragments of the nucleic acids and the peptides encoded thereby, as well as antibodies to the subject proteins and transgenic cells and organisms. The subject protein and nucleic acid compositions find use in a variety of different applications. Finally, kits for use in such applications, e.g., that include the subject nucleic acid compositions, are provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L20 ANSWER 7 OF 11 USPATFULL on STN

ACCESSION NUMBER: 2002:314697 USPATFULL
TITLE: Methods to increase the capacity of high content
cell-based screening assays
INVENTOR(S): Zock, Joseph, Mars, PA, UNITED STATES
Weiss, Megan, Pittsburgh, PA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002177174	A1	20021128
APPLICATION INFO.:	US 2002-96378	A1	20020312 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2001-274969P	20010312 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	MCDONNELL BOEHNNEN HULBERT & BERGHOFF, 300 SOUTH WACKER DRIVE, SUITE 3200, CHICAGO, IL, 60606	
NUMBER OF CLAIMS:	22	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	6 Drawing Page(s)	
LINE COUNT:	1942	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention involves the pooling of multiple high content cell-based screening assays, and carrying out a primary screen in a one or more channels of a fluorescence detection device, which drastically increases the number of simultaneous high content cell-based screening events that can be carried out. Subsequent deconvolution of primary screen "hits" (ie: those wells or locations on an array of locations in which the one or more test compounds caused a change in the fluorescence signal(s) from the fluorescent **reporter** molecules in the cells) enables much more rapid generation of high content cell screening data than was previously possible, and at significantly reduced costs.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L20 ANSWER 8 OF 11 USPATFULL on STN

ACCESSION NUMBER: 2002:287610 USPATFULL
TITLE: Far red shifted fluorescent proteins
INVENTOR(S): Lukyanov, Sergey, Moscow, RUSSIAN FEDERATION
Lukyanov, Konstantin, Moscow, RUSSIAN FEDERATION
Fradkov, Arcady, Moscow, RUSSIAN FEDERATION
Gurskaya, Nadejda, Moscow, RUSSIAN FEDERATION

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002160473	A1	20021031
APPLICATION INFO.:	US 2001-976673	A1	20011012 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2000-240018P	20001012 (60)
	US 2001-306131P	20010716 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	Bret E. Field, Bozicevic, Field and Francis LLP, Suite 200, 200 Middlefield Road, Menlo Park, CA, 94025	
NUMBER OF CLAIMS:	19	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	19 Drawing Page(s)	

LINE COUNT: 2415

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Nucleic acid compositions encoding Stichodactylidaen chromoproteins and fluorescent mutants thereof, as well as the polypeptide compositions encoded by the same, are provided. The proteins of interest are proteins that are colored and/or fluorescent, where this feature arises from the interaction of two or more residues of the protein. Also of interest are proteins that are substantially similar to, or mutants of, the above specific proteins, including non-aggregating mutants and mutants with modulated oligomerization characteristics as compared to wild type. Also provided are fragments of the nucleic acids and the peptides encoded thereby, as well as antibodies to the subject proteins and transgenic cells and organisms. The subject protein and nucleic acid compositions find use in a variety of different applications. Finally, kits for use in such applications, e.g., that include the subject nucleic acid compositions, are provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L20 ANSWER 9 OF 11 USPATFULL on STN

ACCESSION NUMBER: 2002:168052 USPATFULL

TITLE: System for cell-based screening

INVENTOR(S): Giuliano, Kenneth, 351 Hawthorne Rd., Pittsburgh, PA, United States 15209
Kapur, Ravi, 2942 E. Bardoneer Rd., Gibsonia, PA, United States 15044

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6416959	B1	20020709
APPLICATION INFO.:	US 2000-513783		20000225 (9)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1999-430656, filed on 29 Oct 1999 Continuation-in-part of Ser. No. US 1999-398965, filed on 17 Sep 1999 Continuation-in-part of Ser. No. US 1999-352171, filed on 12 Jul 1999 Continuation-in-part of Ser. No. US 1998-31271, filed on 27 Feb 1998 Continuation-in-part of Ser. No. US 1997-810983, filed on 27 Feb 1997, now patented, Pat. No. US 5989835		

	NUMBER	DATE
PRIORITY INFORMATION:	US 1999-122152P	19990226 (60)
	US 1999-123399P	19990308 (60)
	US 1999-151797P	19990831 (60)
	US 1999-168408P	19991201 (60)

DOCUMENT TYPE: Utility

FILE SEGMENT: GRANTED

PRIMARY EXAMINER: Chin, Christopher L.

ASSISTANT EXAMINER: Cook, Lisa V

NUMBER OF CLAIMS: 17

EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 63 Drawing Figure(s); 49 Drawing Page(s)

LINE COUNT: 10972

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides systems, methods, screens, reagents and kits for optical system analysis of cells to rapidly determine the distribution, environment, or activity of fluorescently labeled **reporter** molecules in cells for the purpose of screening large numbers of compounds for those that specifically affect particular biological functions.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L20 ANSWER 10 OF 11 USPATFULL on STN

ACCESSION NUMBER: 2001:205582 USPATFULL
TITLE: System for cell-based screening
INVENTOR(S): Sammak, Paul, Pittsburgh, PA, United States
Duensing, Thomas D., Gibsonia, PA, United States
Rubin, Richard A., Pittsburgh, PA, United States

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2001041347	A1	20011115
APPLICATION INFO.:	US 2000-733273	A1	20001208 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 1999-170087P	19991209 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	McDONNELL BOEHNEN, HULBERT & BERGHOFF, 300 South Wacker Drive, Chicago, IL, 60606	
NUMBER OF CLAIMS:	23	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	29 Drawing Page(s)	
LINE COUNT:	3933	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides automated systems, methods, screens, and software for the analysis of cell spreading. The invention involves providing cells containing fluorescent **reporter** molecules in an array of locations, contacting the cells with a test stimulus, acquiring images from the cells, and automatically calculating one or more morphological features that provide a measure of cell spreading.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L20 ANSWER 11 OF 11 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 1

ACCESSION NUMBER: 1998:305894 CAPLUS
DOCUMENT NUMBER: 129:79530
TITLE: Translocation of phosducin in living neuroblastoma .times. glioma hybrid cells (NG 108-15) monitored by red-shifted green fluorescent protein
AUTHOR(S): Schulz, Rudiger; Schulz, Karin; Wehmeyer, Andrea; Murphy, John
CORPORATE SOURCE: Institute of Pharmacology, Toxicol. and Pharm., University of Munich, Munchen, D-80539, Germany
SOURCE: Brain Research (1998), 790(1,2), 347-356
CODEN: BRREAP; ISSN: 0006-8993
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Activation of G protein-coupled receptors triggers translocation of certain proteins from **cytoplasm** to cell **membrane** located targets. One of these cytosolic proteins is phosducin (Phd) which has been described to compete with G protein-coupled receptor kinases for G.beta..gamma. dimers attached to the cell membrane, thereby attenuating desensitization of activated receptors. These features of protein redistribution prompted us to examine whether stimulation of membrane assocd. E-prostaglandin receptors coupled to Gs causes Phd to migrate towards the plasma membrane. We made use of enhanced green **fluorescence** protein (EGFP), a **reporter** protein, to follow redistribution of Phd both by means of confocal microscopy and biochem. techniques in living neuronal NG 108-15 hybrid cells challenged with prostaglandin E1 (PGE1). The cells were transiently transfected to express Phd fused to the C-terminus of EGFP, or to express EGFP only. Overexpression of the proteins is implied by FACS anal. as well as by western blot technique, and the functional integrity of EGFP-tagged Phd

was confirmed by its ability to elevate cAMP accumulation. Time-lapse **imaging** of single living cells by means of confocal microscopy revealed that exposure to prostaglandin causes EGFP/Phd, which is evenly spread throughout the cell, to relocate towards the membrane within few minutes. **Fluorescence** assocd. with the cell nucleus displayed little rearrangement. The principle finding that prostaglandin triggers translocation of Phd from cytosol to the cell periphery was verified with membranes prep'd. from EGFP/Phd expressing cells. We found maximal concns. of membrane assocd. **fluorescent** material 5 to 7 min upon prostaglandin exposure. The present study reports for living NG 108-15 hybrid cells that PGE1 stimulation causes cytosolic Phd to translocate towards the membrane, where it is believed to bind to G protein subunits such as G.beta..gamma. and G.alpha.s.

REFERENCE COUNT:

44

THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT